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Would Include NSF, NIH, NASA, DOE

Presidential Commission Seeks Department of Science

Proposals for clustering the federal government's civilian research agencies in a new cabinet-level department have so often sprouted and wilted since World War II that the concept bears a Harold Stassen-like quality.

The idea is back again, for at least the 100th reappearance in one form or another over the past 20 years, according to a review by the Congressional Research Service. But this time it arrives in the unusually favorable circumstance of strong backing by politically influential chiefs of high-tech industry and support by the President's Science Adviser. They're talking about a Department that would embrace virtually all of the federal government's civilian R&D programs—including basic science, health, space, energy, and oceanography.

Alert to the total warfare that will ensue from *status quo* supporters if the recommendation is eventually pushed by the White House, the latest proposal is offi-

Bell Labs, the new entity would be called the Department of Science and Technology. And it would be big, both in bureaucratic scale and in budget, which would amount, in the current year, to around \$10 billion.

Following previous recommendations for one form or another of a federal science reshuffle, the new Department would include the now-free standing National Science Foundation along with the Commerce Department's National Bureau of Standards. (The teaming of those two, the customary starting point in the Department game, was last attempted in mid-1983, when the Administration made a feeble try at slimming and reorganizing Commerce into a Department of International

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R&D Well-Positioned for A Tough Budget Season—Page 8

cially silent on which R&D activities should go in and which should remain outside of the new department. But the only ones that were absolutely excluded during discussions that led to the recommendation were the research programs of the Department of Agriculture, the Environmental Protection Agency and other regulatory agencies. Everything else in the civilian research inventory, apart from operational programs such as NASA's space shuttle, was rated fair game.

The departmental proposal will be among some two dozen final recommendations of the President's Commission on Industrial Competitiveness when it meets December 6 for the final session of its 18-month existence. Chaired by John A. Young, President of Hewlett-Packard, and consisting almost wholly of senior corporate brass, the 27-member Commission was appointed to sound big industry's themes in government. In regard to amalgamating most federal civilian research under one roof, the often-repeated theme was that it would be good for industry.

As formulated by the Commission's Committee on Research, Development and Manufacturing, co-chaired by Mark Sheperd Jr., Chief Executive Officer of Texas Instruments, and Ian M. Ross, President of

In Brief

"The Militarily Critical Technologies List," the Defense Department's master guide for security-related export controls, has for the first time been issued in an unclassified form. But, covering 243 pages, it's so general that enforcement would squelch vast segments of US international trade. Among the listed items are know-how concerning telecommunications, computers, information systems, and semiconductors. (\$12.50, specify ADA 146998, National Technical Information Service, Springfield, Va. 22161; tel. 703/487-4650.)

The NIH grant system drew heavy criticism Nov. 19 at the semi-annual meeting of the Advisory Committee to the Director of NIH, including some from NIH Director James B. Wyngaarden. He said the system is generally too rigid, especially for scientists who could usefully shift fields.

Rockefeller University President Joshua Lederberg noted that, with NIH grants running an average of 3.2 years, "it's hardly more than a year before [investigators] are put to the test again." Lederberg said an extension to 5 years would shift attention "from the proposal to the strategy and capabilities of the investigator." Various special programs at NIH provide grants for 5 to 7 years, but they're a small part of the overall system.

Expenditures at colleges and universities rose 36 percent between 1981-82 and the current academic year, to a total of \$95.5 billion, according to the American Council on Education. As a percentage of GNP, higher education is now at 2.7 percent.

White House Staff Briefed

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Trade and Industry—SGR. Vol. XIII, No. 12.)

Along with the Foundation and the Bureau would go the non-military research programs of the Department of Energy, thus creating, with the proposed Department, a super-agency focused mainly on the physical sciences.

The Commission, however, entertained bigger ambitions than a mere pocket-size Department of Science and Technology. Though it didn't formally endorse any particular assemblage of federal agencies within the proposed Department, it favorably "looked at," according to our source, the inclusion of all of the National Institutes of Health, plus the non-operational parts of NASA and the National Oceanic and Atmospheric Administration. SGR was told that Agriculture was excluded on the grounds that "it's too closely coupled to the mission" of the Department of Agriculture.

Reflecting the Commission's singleminded attention to industrial benefits, the Department of Education, a favorite of past reorganization scenarios, was also left out, as were the National Endowment for the Arts and the Endowment for the Humanities. No soft stuff in this Departmental plan.

With a bow to political reality, the R&D programs of the Pentagon, which outspends the federal civilian R&D sector by more than 2-1, weren't even considered for inclusion, though Defense, with its freewheeling electronics spending, obviously has a profound effect on American industrial competitiveness.

The fate of the Department proposal hinges initially on whether the White House will seriously push it in Congress, which would have to approve of a reorganization on so grand a scale. Senior White House staff members, including Presidential Counselor Edwin Meese, were briefed by Commission Chairman Young on November 15, and were said to appear interested, which is not always the case at such sessions.

Assuming White House support, the proposal for a new Department then moves to Capitol Hill, where the closely related issues of desirability and political feasibility would dominate consideration.

Opponents will invoke the ancient cry "If it ain't broke, don't fix it," and will demand to know where the

Keyworth in Commission Role

The Research, Development and Manufacturing Committee—author of the proposal for a Department of Science and Technology—differs from the four other committees within the President's Commission on Industrial Competitiveness in one respect. It includes the only government official among the 27 Commission members: George A. Keyworth II, the President's Science Adviser and Director of the White House Office of Science and Technology Policy.

According to one source, Keyworth "was very interested in serving on the Commission," and was active in its proceedings. The departmental proposal was unanimously recommended to the Commission by the Committee.

However, the usually outspoken Keyworth has been a bit cagey about his support for the new Department. In response to a question, Keyworth's spokesman said that the "Committee supported the Department and he is a member of the Committee." In comments provided to *Chemical & Engineering News*, Keyworth said that science and technology "has got to be an elevated priority," and that "It deserves to be closer to the policy-forming apparatus that the President maintains, and we need a more direct mandate to couple policy and implementation."

The other members of the R&D Committee are:
Mark Sheperd Jr., CEO, Texas Instruments
Ian M. Ross, President, Bell Labs
Donald F. Ephlin, International Vice President, UAW
Robert A. Hanson, President and CEO, Deere and Co.
George D. Laubach, President, Pfizer, Inc.
Howard M. Love, Chairman and CEO, National Steel

present, fragmented arrangement of federal R&D activities is deficient, and how bunching them into one Department would provide a remedy. Apart from pleading the case for administrative tidiness, which does not com-

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... Could a Non-Scientist be Secretary of Science?

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pel much affection in Congress, it will be difficult to demonstrate that togetherness will benefit the far-flung civilian R&D programs of the federal government.

The most compelling argument in behalf of putting most of them into a Department is that with a seat in the Cabinet, science would command more public attention and political influence; these, in turn, would presumably lead to bigger budgets and improved opportunities for dealing with nettlesome problems, such as restrictions on research or skimpy overhead payments on grants.

The difficulty with that argument is that there is no telling who would become Secretary of Science and Technology. The position would obviously not rank high in the cabinet hierarchy, in this or succeeding administrations. And, therefore, horror of all horrors for the mandarins of science, it might even go to a non-scientist. It might even be used as a reward for loyal service for a dubiously qualified former member of Congress, as, for example, former Rep. Margaret M. Heckler (R-Mass.), who was rewarded with the post of Secretary of Health and Human Services upon coming down from Capitol Hill.

The Virtue of Many Banks

From the perspective of the scientific community, the main argument for the present system is that it provides several banks for research support, rather than one central institution. The plurality within the Executive Branch is reflected in an array of more or less matching Congressional committees, thus multiplying the number of participants and expanding the opportunities for exerting influence.

Would diversity suffer under a Departmental setup? The answer from the proponents is that it might but doesn't have to. They point to the Department of Health and Human Services, where several research-oriented agencies thrive in fairly autonomous circumstances. The same is true of the Defense Department, where the individual armed services run their own research programs, while the Department runs its own programs. In a similar setup, civilian research agencies under one Departmental label might reap the benefit of greater political visibility, without incurring the price of deadening uniformity.

The issue of desirability, however, goes beyond those considerations. Several of the agencies that would be embraced by the new Department profit from congenial Congressional relations that might not fare too well under a new Department. NIH, for example, has usually been exempted from these perennial reorganization

"Outrageous" R&D Tax Claims

The following excerpt is by Kenneth M. Brown, Deputy Director of the Commerce Department's Bureau of Industrial Economics, on leave to the American Enterprise Institute (AEI), generally regarded as a right-wing think tank. It is from proceedings of an AEI-sponsored conference last May, "The R&D Tax Credit," (47 pages) edited by Brown, and available for \$6.95 from AEI, 1150 17th St. NW., Washington, DC 20036; tel. 202/862-6446.

Now that the 25 percent [R&D] tax credit is available, managers must be sorely tempted to classify as much spending as possible as "research and experimentation" for tax purposes, quite independently of whether it really fits that description. The Treasury Department, having had to deal with a number of outrageous R&D deductions, has urged Congress to tighten the definition of R&D. Meanwhile there has been a misleadingly large increase in the amount of R&D that companies have claimed.

A Treasury Department sample of tax returns for 1981 shows a 43 percent surge in industrial R&D claimed for tax purposes, whereas *Business Week's* survey of R&D spending for that year revealed only a 14.9 percent increase . . .

. . . a boom in R&D spending was well underway before the credit took hold in mid-1981 and continued into the sharp recession of 1981-1982 with no clear departure from the post-1974 trend. In light of . . . theoretical analysis . . . of how a firm would view the credit, my guess is that the credit's impact on actual (as opposed to reported) R&D was positive but too small to be measured.

(SGR Editor's Note: Renewal of the tax credit, which expires at the end of next year, is strongly supported by the Competitiveness Commission.)

bouts on the grounds that it is doing well what it's supposed to be doing—basic biomedical research related to disease.

However, there's a new element today in biomedical politics: The contention, strongly enunciated by Presidential Science Adviser Keyworth, that NIH is so preoccupied with its ancient mission that it is neglecting its great potential for boosting the biotechnology industry through training and strategically placed research support. Keyworth is quite steamed up on that subject.

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... NIH Pressured to Boost Industrial Biotechnology

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Referring recently to what he described "as one of the fundamental problems with NIH," he exclaimed, "You can support all of the wonderful research in the world . . . but there is less attention put at NIH than in virtually any other agency in our government to put that science to use" (SGR Vol. XIV, No. 17). Eager to assert influence over the NIH budget—a goal that also eluded his predecessors who tried—Keyworth several months ago engaged in a private shouting match with HHS Secretary Heckler, who insisted that the White House Science Office has no right to meddle with components of her Department. The situation might be considerably different if NIH were extracted from her Department and put into a new Department whose groundrules reflected some of the concerns of the President's Science Adviser.

What's certain is that a proposal to move NIH would set off a great political storm. The health lobbies, which are among the most powerful and politically skillful in Washington, regularly clamor against NIH for not devoting more money to their concerns. Biotechnology, however, is not among those concerns; they like NIH just where it is, and can be expected to fight to keep it there.

In contrast, the proposal to include NSF along with the Bureau of Standards and the research programs of the Department Energy might get by on Capitol Hill. NSF, with a sturdy base of Congressional support and general respect throughout academe, would be the natural centerpiece for the science core of the new Department. NBS, submerged and miserable within the Department of Commerce, could only benefit from the change. DOE, under this Administration, has evolved into a reliable and nurturing base for basic science, but finds its future increasingly threatened by bountiful supplies of energy. With the nuclear future growing dimmer, slicing off the basic-research functions would leave DOE mainly as an agency for building nuclear weapons, which is an odd focus for what is supposed to be a civilian agency. But that provides no argument for keeping the Department's mainstay role in high-energy physics, nuclear science, and other fields out of the proposal.

With the space shuttle now considered an operational vehicle, and NASA pushing the commercialization of space, the \$2.4 billion that NASA spends on R&D—from a current total budget of \$7.5 billion—might possibly make the transition to a new Department without stirring a major political fight. The space-science com-

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Ripoffs in Research: Stanford Ombudsman Raises a Cry

From "Report of the Associate University Ombudsman for the Medical School" (12 pages) by Allan B. Barbour, MD, Professor of Clinical Medicine, emeritus, upon stepping down this month after three years as the first ombudsman for the Stanford University Medical School.

In the past three years we have received several complaints from post-doctoral fellows, research associates, or junior faculty . . . about the appropriation of authorship by senior faculty with questionable jurisdiction over the junior's work. We refer here to work which (1) is the major product of the junior person from the original concept on through all the work done on the whole project, (2) is not supervised by and is outside the usual discipline of the senior faculty, and (3) does not require co-authorship or primary authorship by the senior for any reason specified by a source of funds or by the University.

We do not refer here to the appropriate co-authorship of a principal investigator clearly responsible for the integrity of research done under his or her jurisdiction even though the principal investigator did not conceive the project, do the

work, or provide much if any supervision. Even here, however, the principal investigator need not be named as primary author, and the academic community should be led to understand, one way or another, that it was the junior who conceived and executed the project.

The University has specific academic policies pertaining to research . . . But it provides no guidelines for authorship nor review boards for questions of abuse. Authorship boils down to gentlemen's agreements. Although most faculty acknowledge gracefully the work of juniors, it is well known that some faculty use doctoral candidates or "post-docs" primarily for their own advantage . . .

In none of the cases brought to our office were we authorized to open this question with senior faculty, mostly because the complainant feared reprisal from the very faculty most likely to insist, sometimes openly, sometimes covertly, on co-authorship which the complainant regards as spurious. We believe this problem to be of sufficient complexity and magnitude to merit review by the Ethics Committee of the Medical School or the University Office of Graduate Studies and Research.

Commission Followed Mandate to Focus on Industry

The recommendation of the President's Commission on Industrial Competitiveness for a separate Department of Science and Technology is suitably unspecific for the opening stage of what will be a grueling battle, if the proposal is pushed forward.

But the substance that it does contain demonstrates that the answer you get depends on what you ask and whom. Mr. Reagan could have assembled a diversified, distinguished group to ponder how the nation might generally derive greater rewards from its substantial investment in research. Instead, the group, dominated by industrial fat cats, was assigned to ruminate on science as a route to riches.

As might be expected from the chiefs of anxious industries, serving on a commission focused on Industrial Competitiveness, their response addresses R&D strictly as a utilitarian tool against foreign competition. Apart from a vague reference to "national well-being," there's nothing in the recommendation that resembles that bygone talk (of just 5 to 10 years ago) of science in the service of social justice, science as a tool for meeting community problems, improving health, cleansing the environment, and so forth. And, of course, there's not a hint of that intellectual relic of "science for the sake of science"—a concept that's been missing without a trace for well over a decade.

Instead, from the R&D Committee of the President's Commission there's a call to "improve the effectiveness with which government, industry, and academia interact in the process of researching, developing, and commercializing technology The new Department . . . would ensure a national science and technology base strong enough to meet the competition that confronts both industry and government."

There's a sop to the basic-research community, which still retains enough political affection to make trouble

for the proposal. The Department, says the Committee in a somewhat ruffled sentence, "would place high priority on the support of basic research across the board, often unpredictable, spectrum of topics that have potential long-term benefit to the nation." To which it adds:

"It is particularly important for the United States to embrace as a fundamental objective the enhancement of industrial competitiveness. To help meet that goal, wherever appropriate, the Department should specifically apply two criteria in the management of R&D:

- "Emphasize programs that will increase the pool of scientists and engineers needed by industry.
- "Emphasize programs with potential to produce technologies of generic importance to industry and government."

Why is a Department of Science and Technology needed to achieve those industrial goals? The Committee answers with the following:

"The US is the largest supporter of science and technology in the world, and a central feature of that support is the multiplicity of government roles—performer, manager, stimulus, funder, and policymaker. Yet within the federal government, there is no operational focus for this critical element in our future. Science and technology need a higher level of attention, greater predictability of support, more coherent policies, and better long-range planning to enhance the competitive status of our nation

"Such a Department would transform the current fragmented formulation of policies for science and technology into one that would be far more effective in meeting long-term national goals. It would also improve the effectiveness with which government, industry, and academia interact in the process of researching, developing, and commercializing technology."

Department

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munity is resigned to, rather than enthusiastic about, NASA's grand obsession for a permanently manned space station. An argument can be made that it would fare better in a Department devoted to science. What's certain is that the present homebase is increasingly less hospitable.

The revival of the Departmental concept converges with a grand study of federal science policy that the House Science and Technology Committee will commence when Congress returns in January (SGR Vol. XIV, No. 16). The study, scheduled to extend over two years, could be used as a device for at least temporarily sidetracking any reorganization of federal research agencies. Or, it could harmonize with the recommenda-

tion for a Department of Science and Technology and actually accelerate motion toward that goal.

As a matter of principle, the Reagan Administration is against growth of the bureaucracy and, in theory, seeks to shrink the cabinet, rather than expand it. But the lineup of federal research agencies has changed very little since the 1950s, when NSF and then NASA were created. For the purpose of looking consistent, the Department could fairly be justified as a tidying of existing functions, not an expansion.

The goal of one big Department embracing virtually the entire civilian R&D enterprise might be too much for Congress to swallow. But with sufficient Presidential push, major pieces of that enterprise could find themselves reorganized into a Department of Science and Technology within the next year or two.—DSG

In Print: Industrial R&D, Fusion, CW Munitions, Etc.

Trends in Collective Industrial Research, report of an NSF-supported study by New York University's Center for Science and Technology Policy, draws on data from 59 research-supporting associations spanning 19 industrial sectors; found that cooperative research is a relatively small but growing slice of the industrial R&D picture—the sample's spending on collective research amounted to about 3 percent of total industrial R&D—and is dominated by three major organizations, Bell Communications Research, the Electric Power Research Institute, and the Gas Research Institute, which accounted for nearly 90 percent of the \$1.6 billion 1984 expenditures by the 59 associations. The study also found that industrial firms tend to collaborate on R&D that's "complementary to the technical base," while retaining their "critical core functions."

(217 pages plus appendixes, \$20, Herbert Fusfeld, Director, Center for Science and Public Policy, NYU, 114 Liberty St., Room 501, New York, NY 10006; tel. 212/285-8946.)

Cooperation and Competition on the Path to Fusion Energy, report by a National Academy of Sciences' committee headed by Joseph P. Gavin, Chairman, Grumman Corp., commissioned by the Department of Energy, concludes that fusion research is stretching both the US Treasury and political patience; suggests collaboration with the Western European and Japanese programs, but warns that sudden turnabouts have eroded foreign confidence in US reliability as an R&D partner.

(131 pages, \$10, National Academy Press, 2101 Constitution Ave. Nw., Washington, DC 20418.)

Science and Technology in Japan, by Alun M. Anderson, Tokyo correspondent for *Nature*, provides a concise, comprehensive review of the organization and programs of government, industrial and academic research organizations, plus details on funding and international collaborative activities.

(421 pages, \$85, Gale Research Co., Book Tower, Detroit, Michigan, 48226; tel. 313/961-2242.)

Disposal of Chemical Munitions and Agents, report of a study for the Army by the National Academy of Sciences' Committee on Demilitarizing Chemical Munitions and Agents, chaired by Norton D. Zinder, Professor of Genetics, Rockefeller University; says 90 percent of the CW stockpile has aged to "little or no military value," and that parts of the inventory are leaking;

praises the Army's management of the stockpile, but says the stuff should be destroyed "as soon as possible"—a task estimated to require 10-20 years and \$2-\$4 billion with current methods.

(216 pages, \$16.50, National Academy Press, 2101 Constitution Ave. Nw., Washington, DC 20418.)

Acid Precipitation—An Annotated Bibliography, compiled by the US Geological Survey, contains 1660 entries, spanning a variety of scientific disciplines, from the mid-19th century through 1981.

(Published as USGS Circular 923, 282 pages, no charge, Eastern Distribution Branch, USGS, 604 S. Pickett St., Alexandria Va. 22304.)

Intensive Care Units: Clinical Outcomes, Costs, and Decisionmaking, latest in the Congressional Office of Technology Assessment's long-running case-study series on health-care technologies; observes that terminal cases account for a high proportion of ICU admissions, warns of conflicts between prospective payment systems and ICU usage, recommends research on predictors for beneficial application of ICU technology.

(98 pages, \$4.25, Superintendent of Documents, USGPO, Washington, DC 20402; specify GPO Stock No. 052-003-00971-4.)

Research Briefings 1984, third of an annual exercise for the White House Office of Science and Technology Policy (OSTP) and NSF in which panels appointed by the National Academy of Sciences try to pinpoint where important payoffs might result from increased federal R&D spending. This year's topics, selected by OSTP in consultation with the Academy: Computer Architecture, Information Technology in Precollege Education, Process Engineering for Biotechnology, High-Performance Polymer Composites, Biology of Oncogenes, Interactions Between Blood and Blood Vessels, Biology of Parasitism, Solar-Terrestrial Plasma Physics, and a shopping list, "Opportunities in Physics."

(116 pages, \$9.95, National Academy Press, 2101 Constitution Ave. Nw., Washington, DC 20418.)

Toward Better Knowledge, Public Understanding of Science in Sweden, describes activities sponsored by the Swedish Council for Planning and Coordination of Research, under a 1979 Parliamentary mandate to foster public understanding of science.

(52 pages, in English, no charge, FRN, Box 6710, S-11385, Stockholm, Sweden.)

Senior Jobs: NIH Fills 'em Fast, Unlike the NSF

Mortimer B. Lipsett, Director of the National Institute of Child Health and Human Development (NICHD), is to be the new Director of the National Institute of Arthritis, Diabetes, and Digestive Diseases (NIADDK), according to sources at the National Institutes of Health.

The appointment, coming about six months after the post became vacant, illustrates the difference between filling important jobs at NIH, where it usually gets down in reasonable time, and at the National Science Foundation, where it doesn't.

Lipsett would succeed Lester B. Salans, who resigned last June for what turned out to be a short stay as Dean of the Mt. Sinai (NY) School of Medicine; he's now there as Professor of Medicine.

The NIADDK directorship is the most politically sensitive in the NIH complex, given the recent Presidential veto of legislation to detach arthritis from its present base and relocate it as the centerpiece of a new institute (SGR Vol. XIV, No. 19). Advocates of that shift plan to

try again in the next Congress.

With Lipsett's move from one institute to another, NIH would be heading into the Congressional appropriations-hearing season with only his former post vacant at the institute director level. Another slot, the directorship of the Institute of Allergy and Infectious Diseases, was filled last month with the appointment of Anthony S. Fauci, who had been chief of the Institute's Laboratory of Immunoregulation.

NIH has filled these, and other high-level posts, in relatively swift fashion, compared to NSF, where positions of similar elevation have remained vacant for well over a year; in the case of NSF's deputy directorship, the job has been vacant since December 1982.

What accounts for the difference in staffing the high command at the two agencies? Several factors, but prominent among them is NSF's entanglement in a misguided 1968 legislative revision that took the deputy director and four assistant directors—previously appointed at the discretion of the Director, who was the lone presidential appointee at NSF—and made them all presidential appointees. The peculiar expectation behind that change was that visibility, importance and many other benefits in Washington's value system come with presidential appointments. But the main result has been long delays in filling NSF's second-level presidential appointments. One reason is that the White House considers the sub-Director posts inconsequential and gives them low priority in the scrutiny that's supposed to save the President from the embarrassment of endorsing an appointee who is later revealed to have a soiled past.

At NIH, on the other hand, only the Director and the head of the National Cancer Institute are presidential appointees. The chiefs of the other 10 institutes are appointed by the Secretary of Health and Human Services, who usually abides by Bethesda's wishes in filling major positions.

NSF Issues Academic Survey

The National Science Foundation is out with its latest edition of statistical profiles of science and engineering activities in virtually all American institutions of higher education. The complete survey results are on magnetic tape. Individual "institutional profiles" are available in printout form.

The survey covers research and development expenditures, science and engineering employment, federal support, graduate students and postdoctoral staff.

For orders and additional information: J. G. Huckenhahler, Division of Science Resources Studies, Room L-602, NSF 1800 G St. Nw., Washington, DC 20550; tel. 202/634-4673.

NIH Begins Dentistry Awards

A new program of 5-year Dentist Scientist Awards, designed to encourage clinical research careers in dentistry, is beginning at the National Institute of Dental Research (NIDR), part of NIH.

Starting with 5 individual and 10 institutional programs this year, at a total cost of \$1.5 million, NIDR says it plans to expand to 170 dentists, at an annual cost of \$10 million, by 1989. The awards include progressive salary increases up to a maximum of \$40,000 over 5 years, plus a total of \$75,000 for research support.

For additional information: Thomas M. Valega, Manpower Development, NIH/NIDR, Westwood Building, Room 510, Bethesda, Md. 20205; tel. 301/496-7807.

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R&D: Good Prospects for Dodging the Budget Ax

Washington is buzzing with prophecies of horrendous budget cuts, not only in civilian programs but also in heretofore sacrosanct national-security spending and high-riding R&D programs. If true, that means that the budget minders must indeed be serious about yet another try at restraining federal spending.

The political reality, however, is that the incoming Congress is likely to be less inclined to economy than was the outgoing one, which frequently ignored the Administration's attempts at frugality. With a more liberal Senate coming back from the election, and a flock of vulnerable Republicans facing re-election in 1986, that chamber is wide open for spending rather than cutting. The Democratic majority in the House was reduced by 14 seats, but remains intact.

Though science and education failed to draw serious interest during the election campaign, they rated extremely high in budget-busting activities in the last Congress, and can be expected to retain that popularity in the next Congress. The Department of Education came out of the 98th Congress with a record-setting budget, \$17.7 billion, as did the National Institutes of Health, with \$5.1 billion, and the National Science Foundation, with \$1.5 billion.

What's evident from these big numbers—which exceeded or at least matched the Administration's requests—is that education and science are politically ap-

pealing, even if they do not lend themselves to political bombast.

The 99th Congress will convene next month in an atmosphere of deficit crisis. And it surely will go along to some extent with White House efforts to trim what's already been passed for the current fiscal year and hold down the sums for 1986. There will be exceptions, of course. The odds are that science and education will be prominent among them.

E-W Exchanges Invited

Applications are invited by the National Academy of Sciences (NAS) for the next round of its scientific exchange program with the Soviet Union, Eastern bloc countries, and Yugoslavia—for the year beginning January 1, 1986.

Applicants must be US citizens with a PhD or equivalent by the time of the proposed visit; the program covers most major fields of science and engineering, including the social and behavioral sciences. The exchanges are financed by the NAS and the host institutions.

For applications and additional information: NAS, Office of International Affairs, USSR/EE, 2101 Constitution Ave. Nw., Washington, DC 20418; tel. 202/334-2644.

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